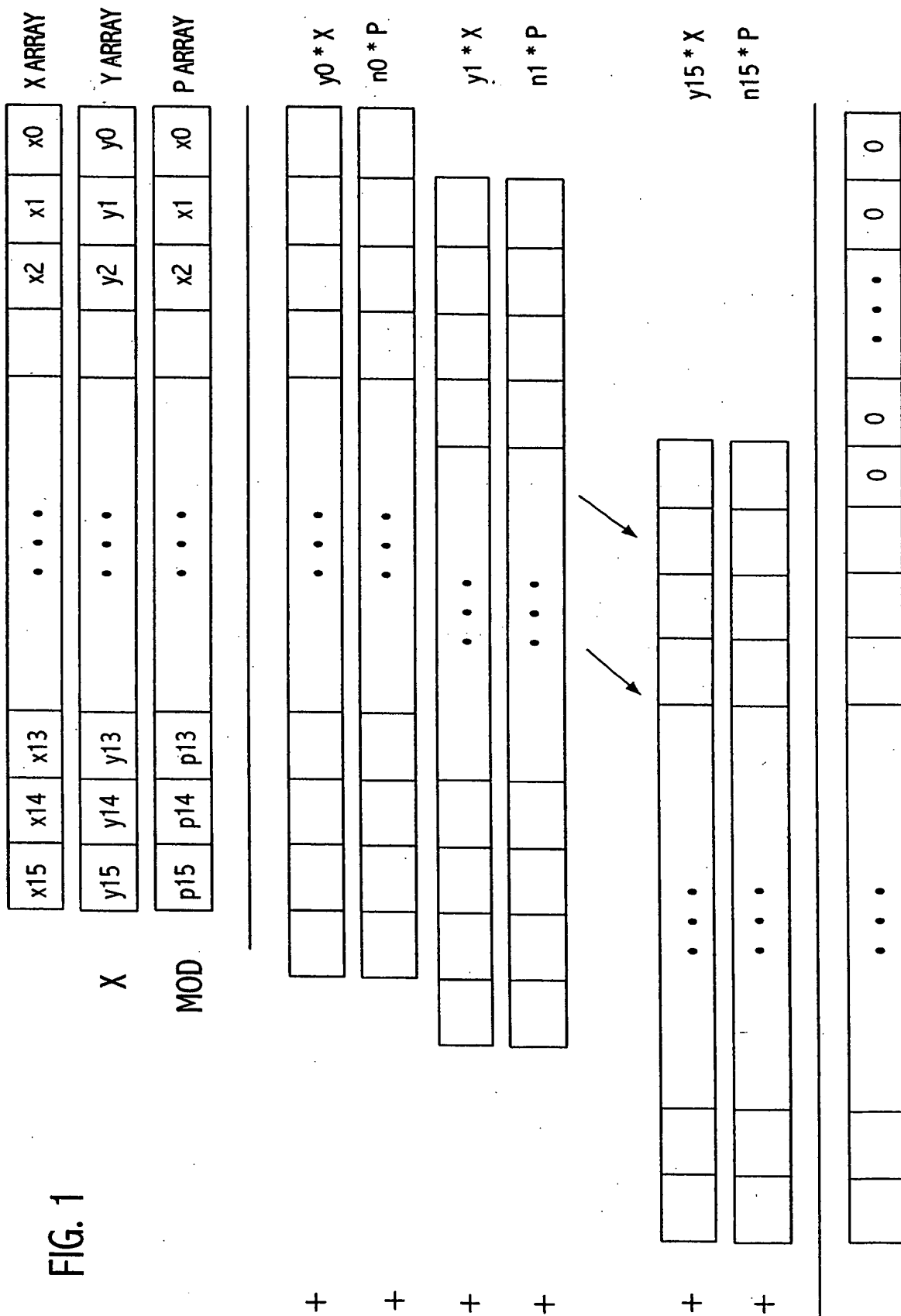


FIG. 1



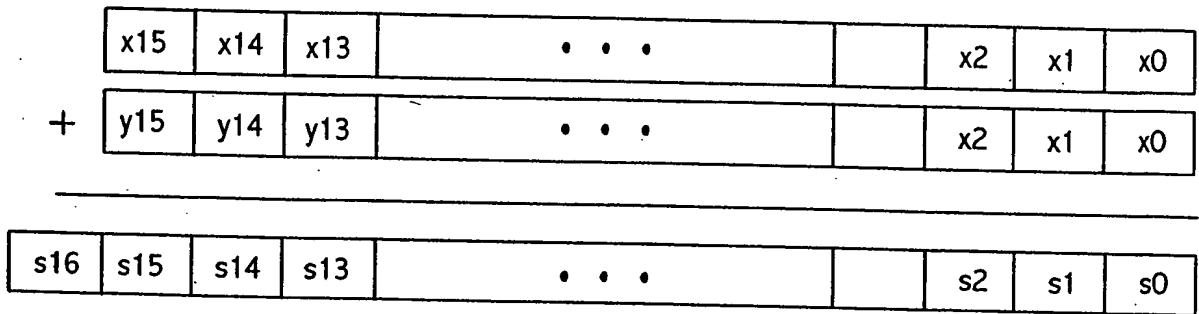


FIG. 2

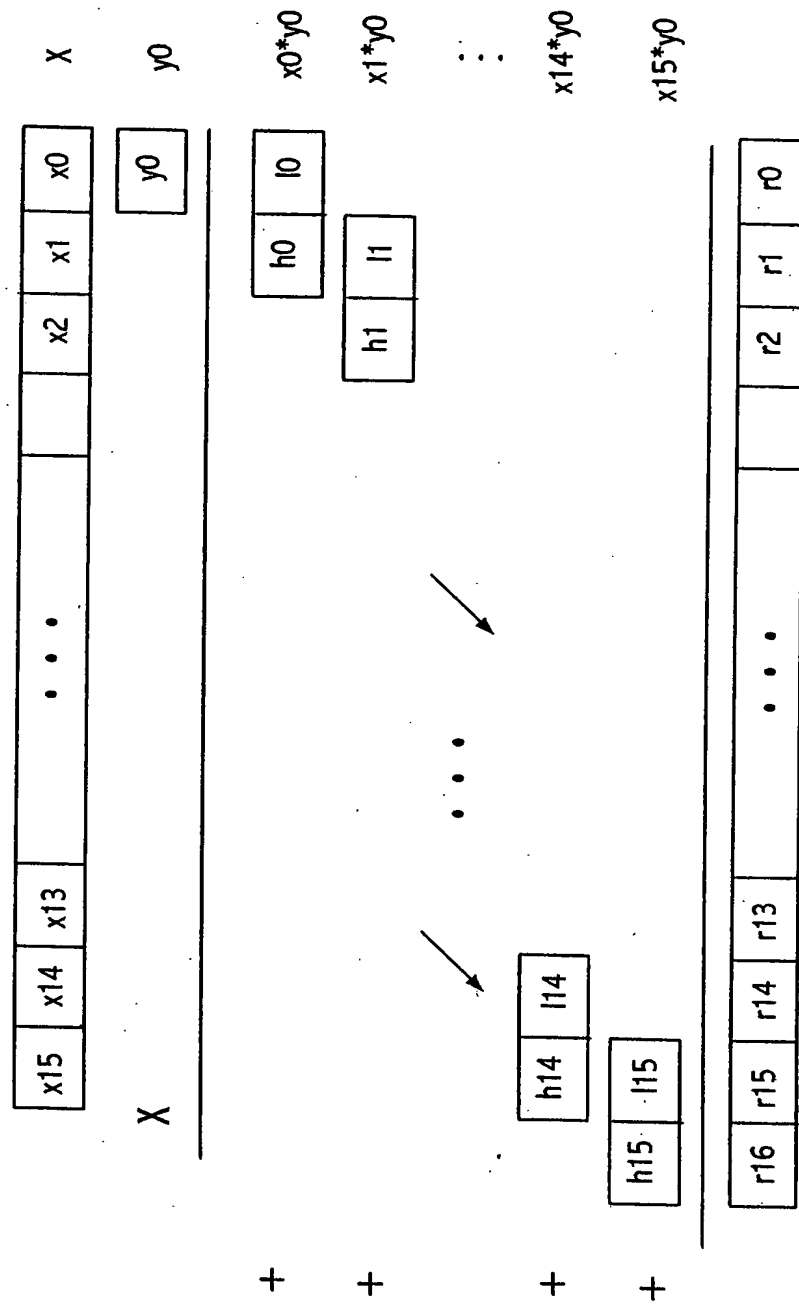


FIG. 3

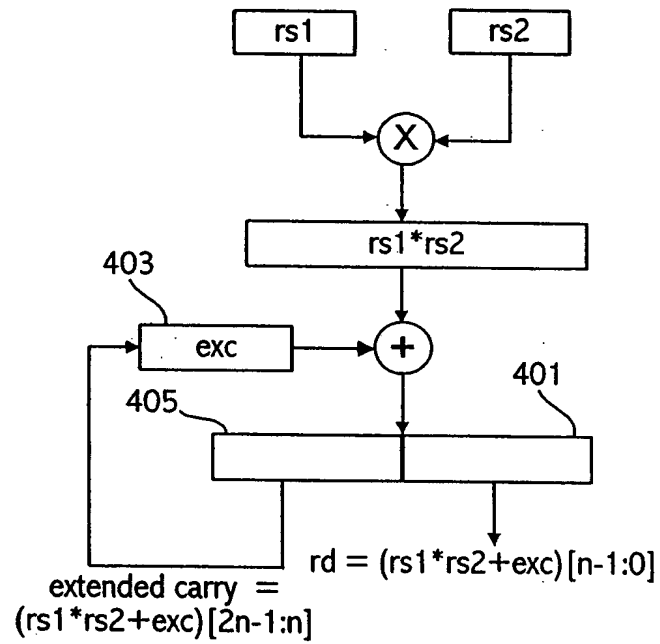


FIG. 4A

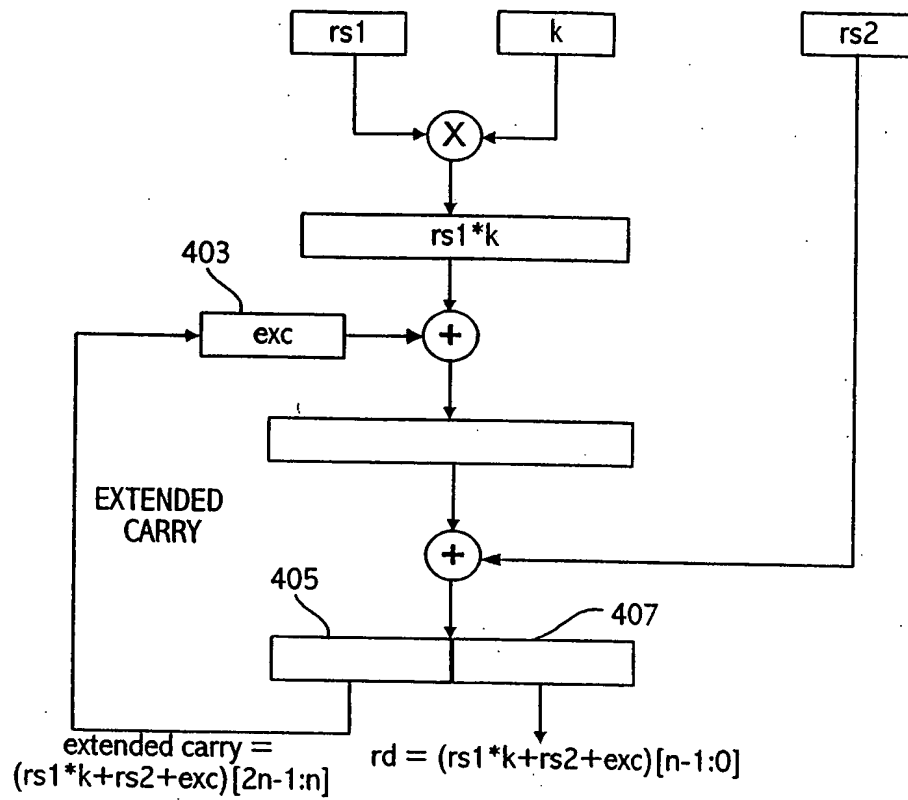


FIG. 4B

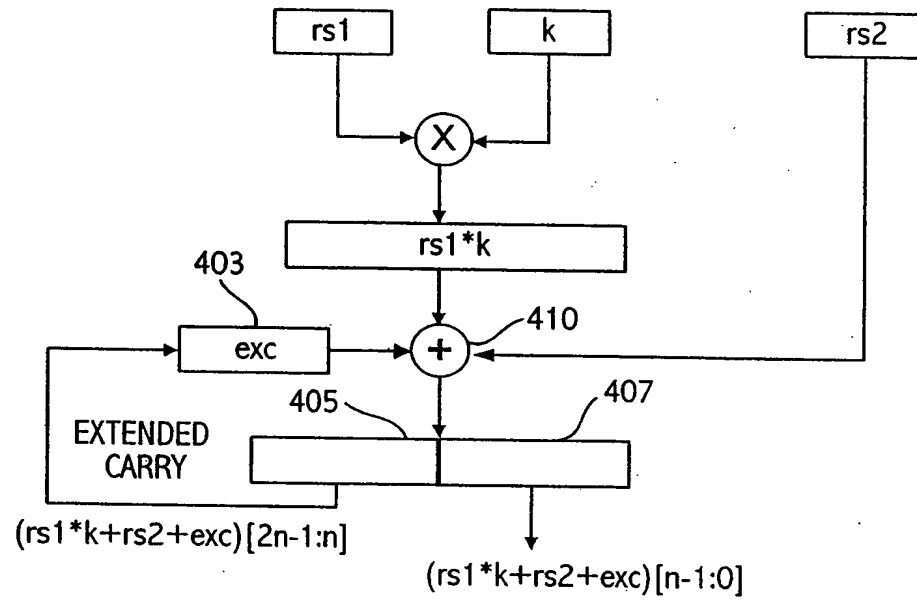


FIG. 4C

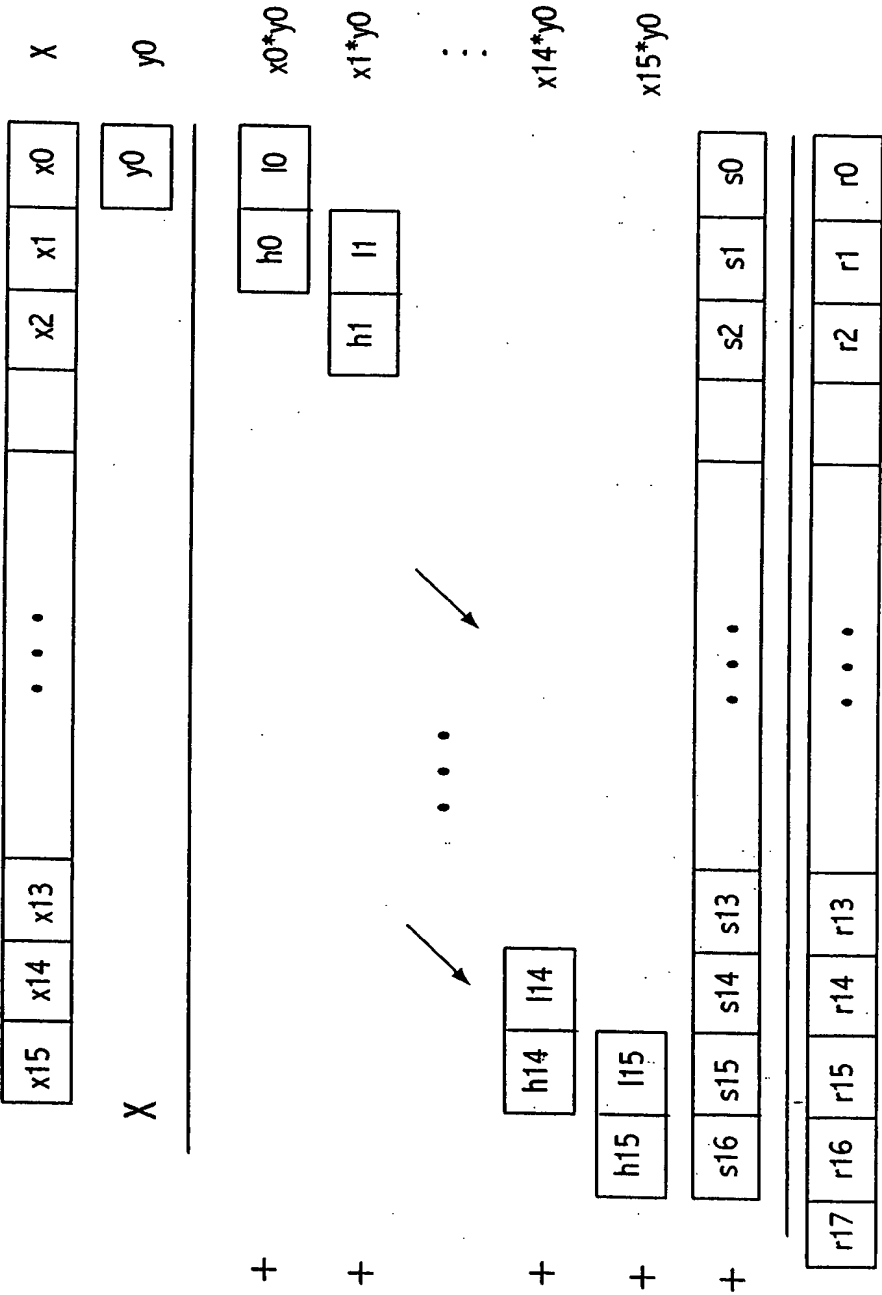


FIG. 5

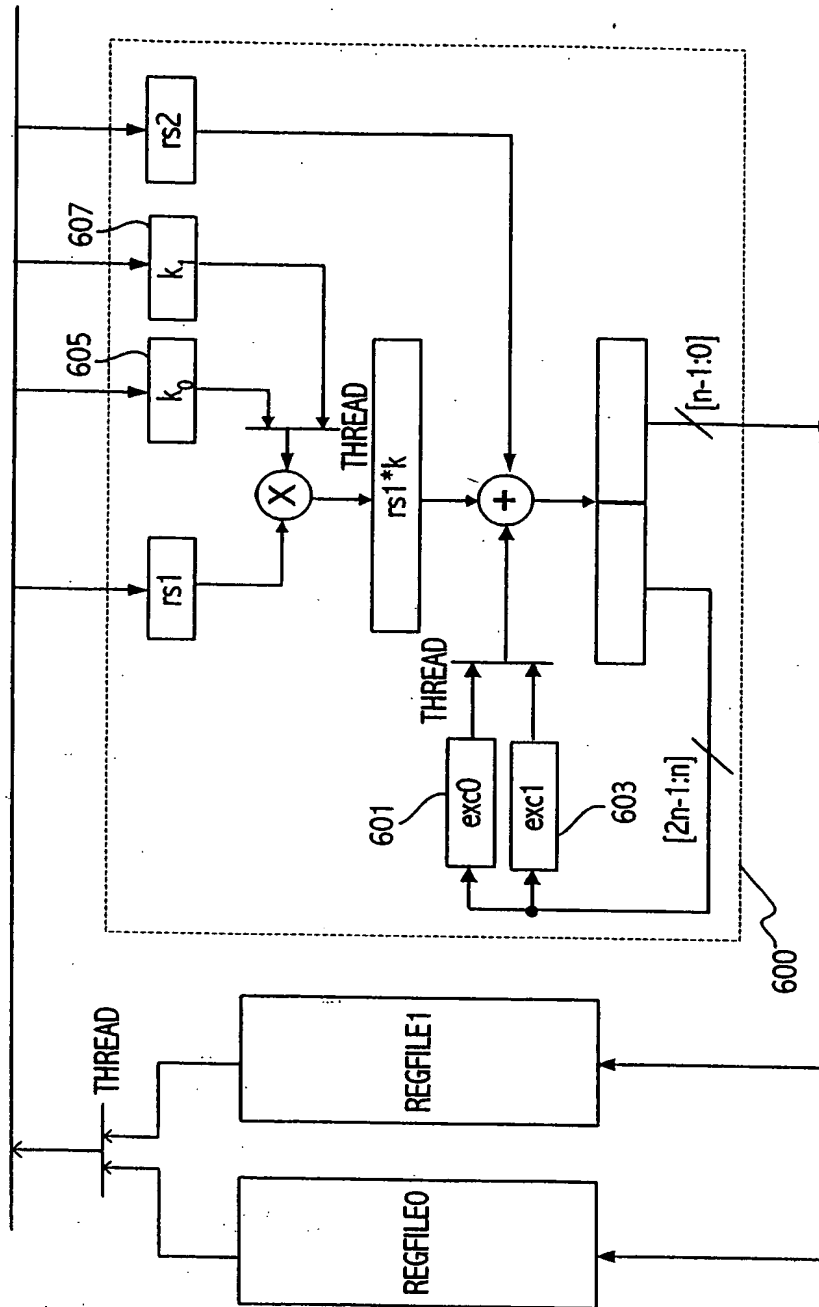


FIG. 6

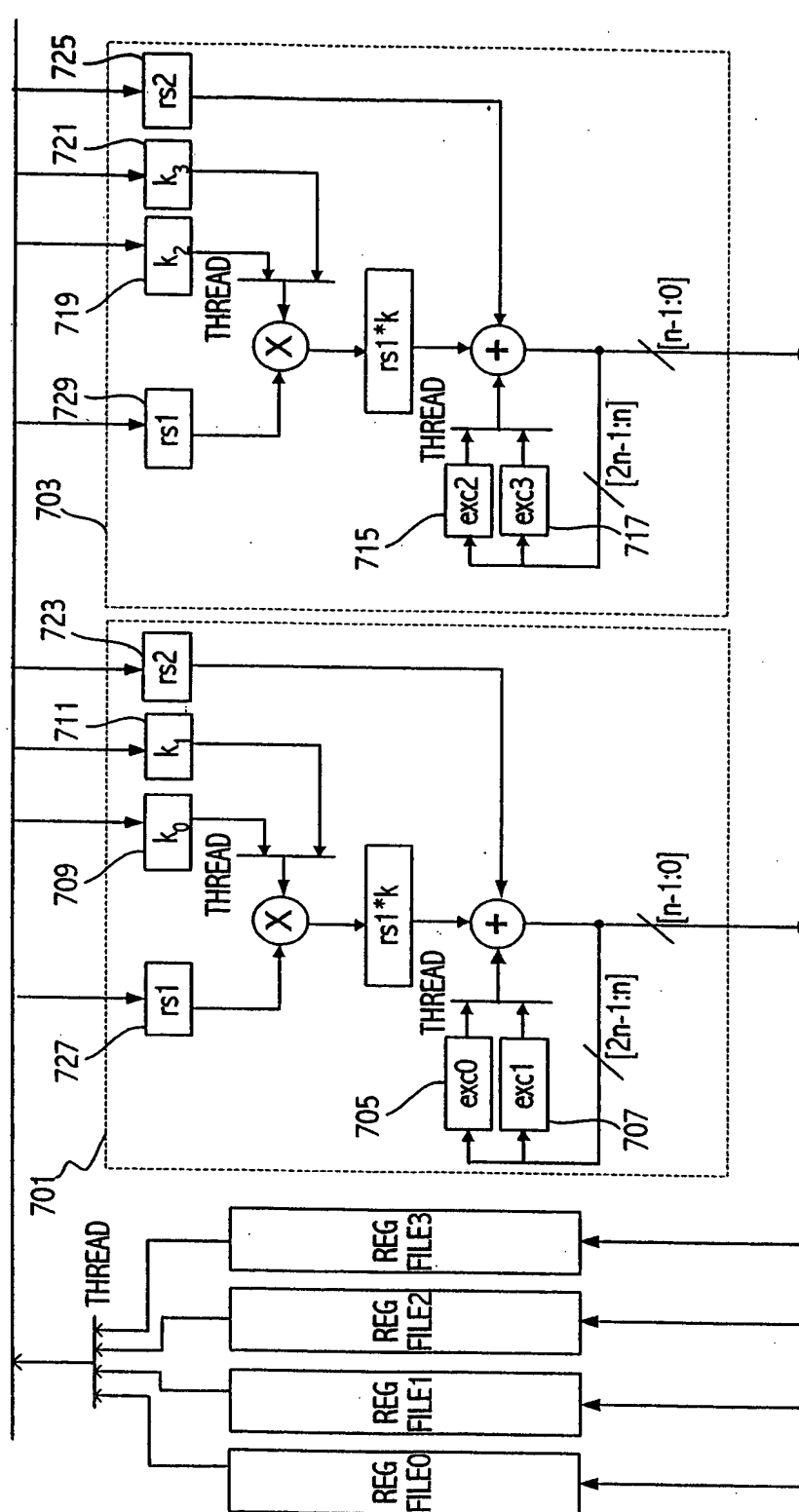


FIG 7

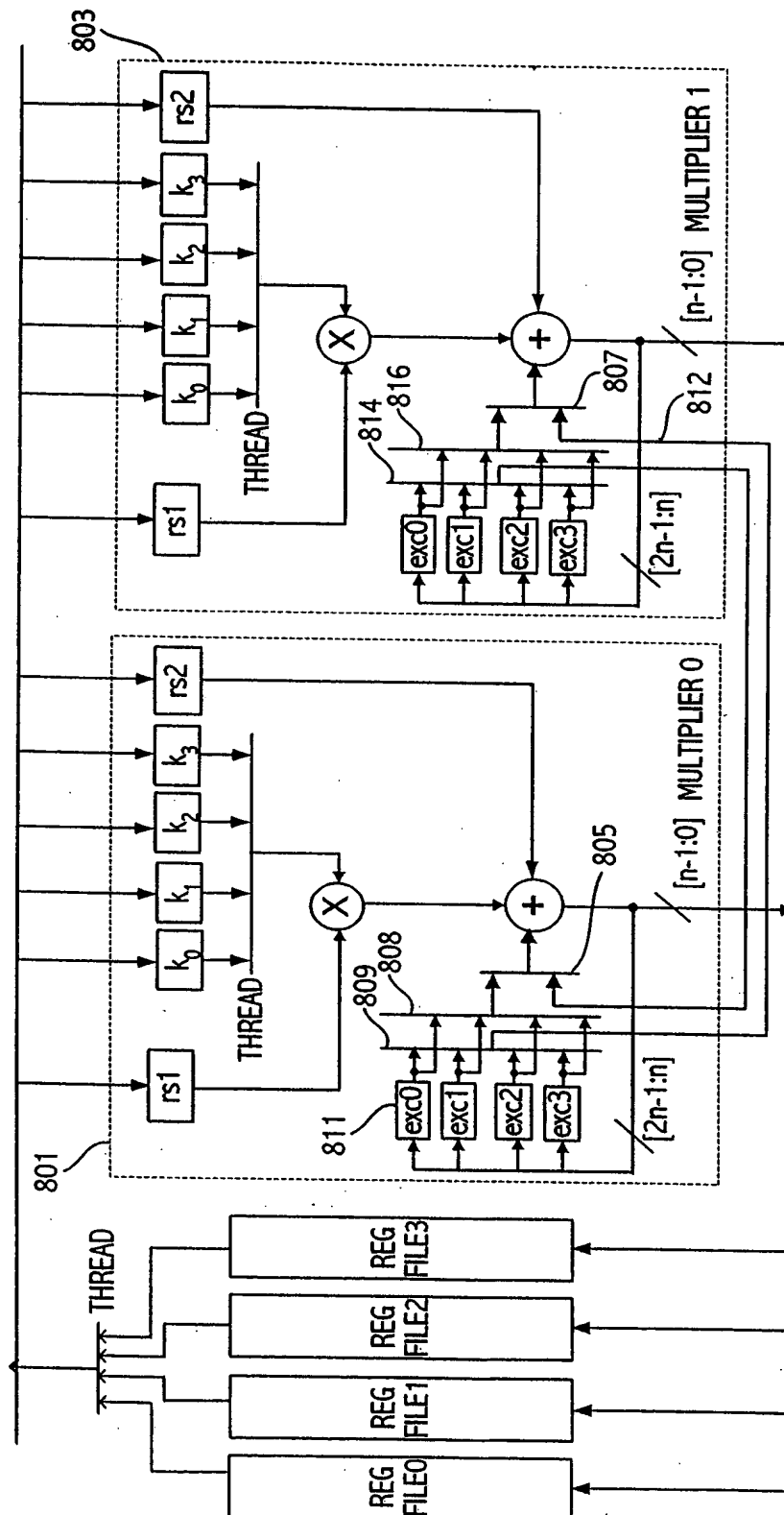


FIG. 8

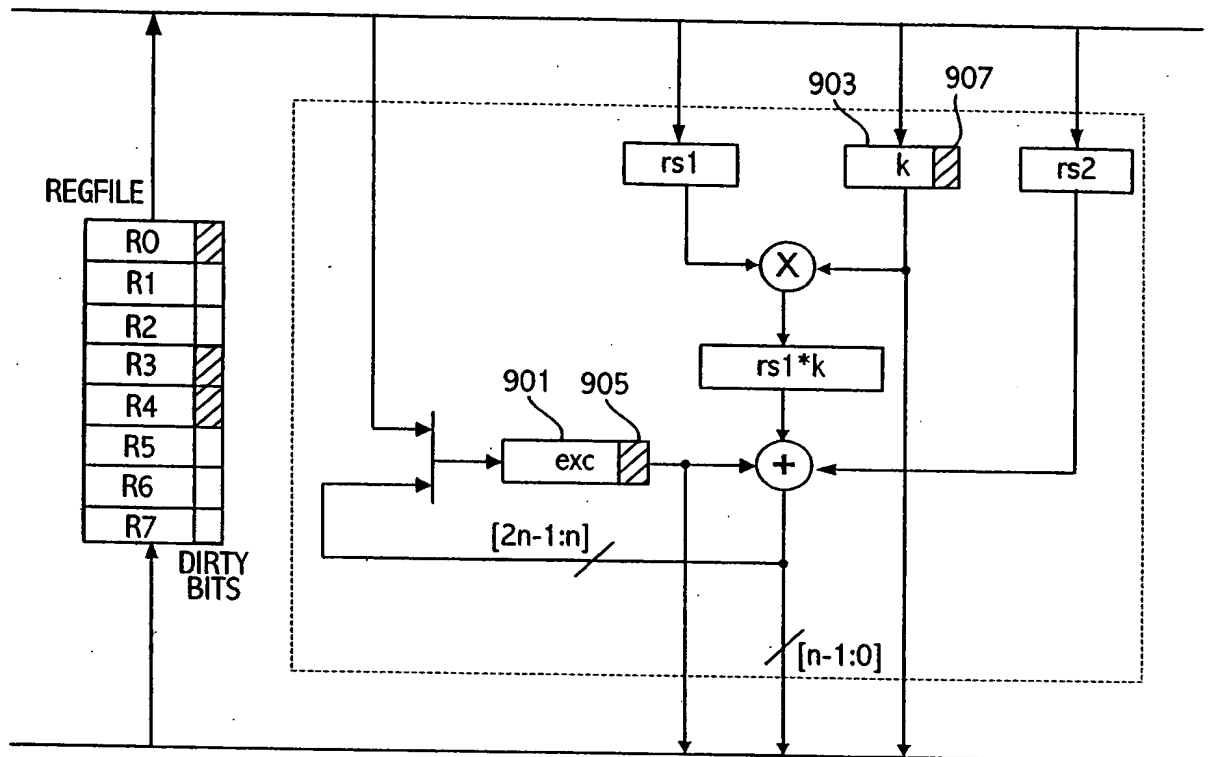


FIG. 9

FIG. 10

FIG. 11

FIG. 12



with [S7:S0] and [C7:C0] going to the carry look-ahead adder.

Fig 12 B

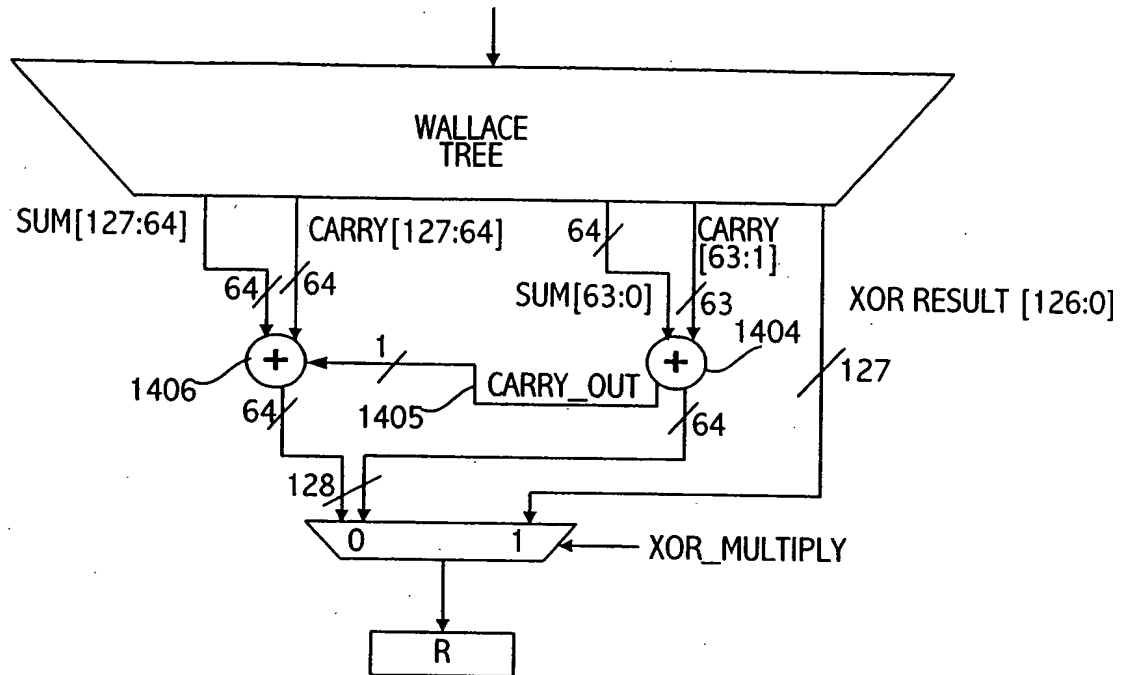


FIG. 14

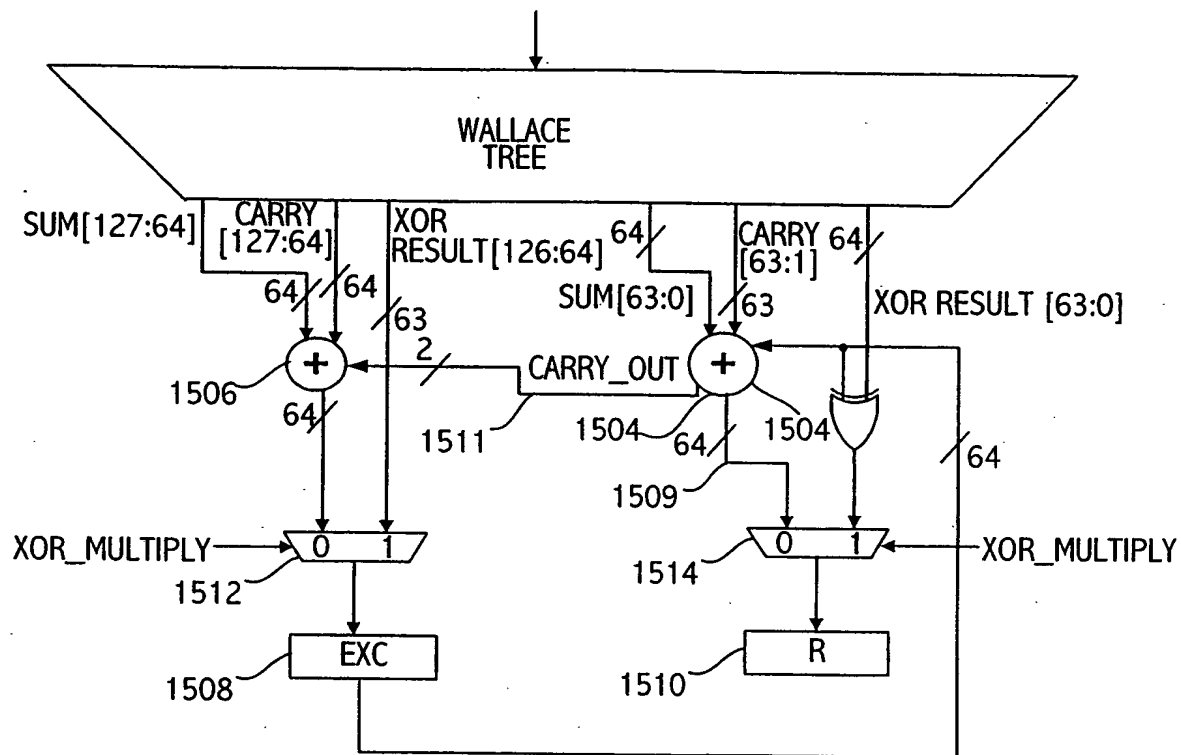


FIG. 15

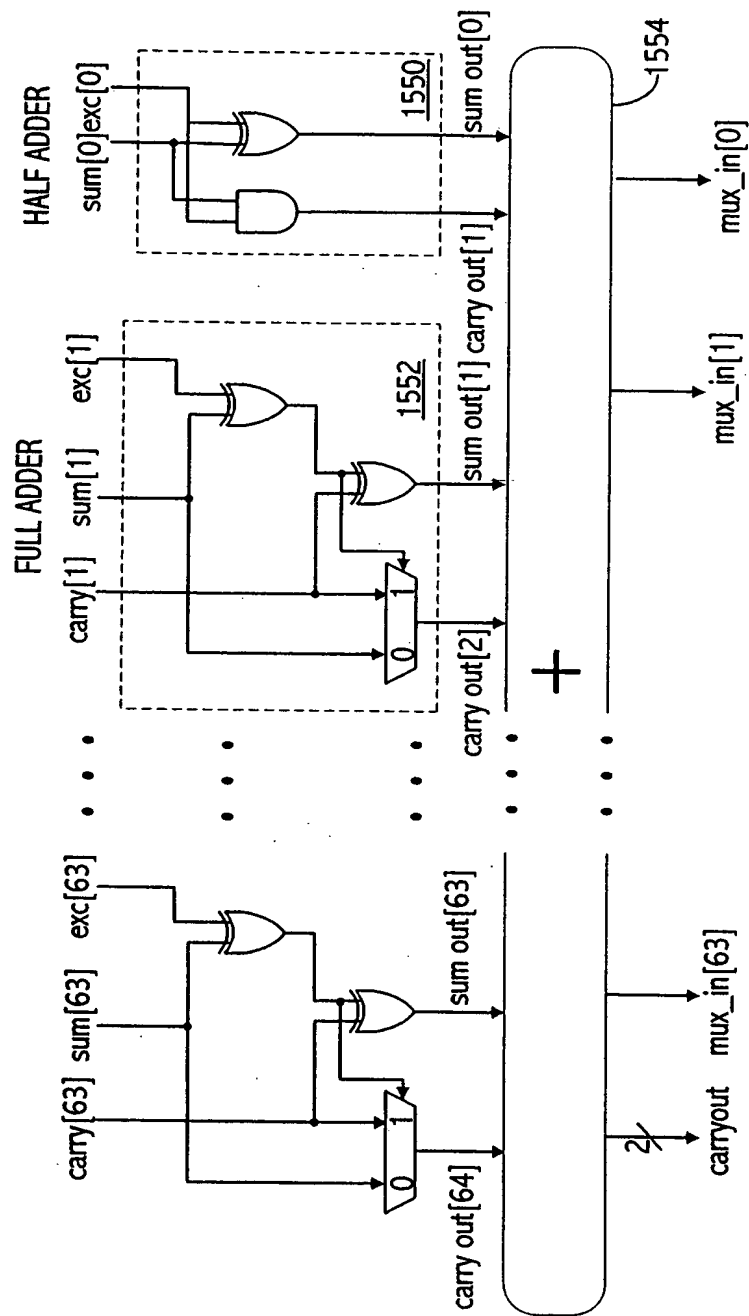


FIG. 15a

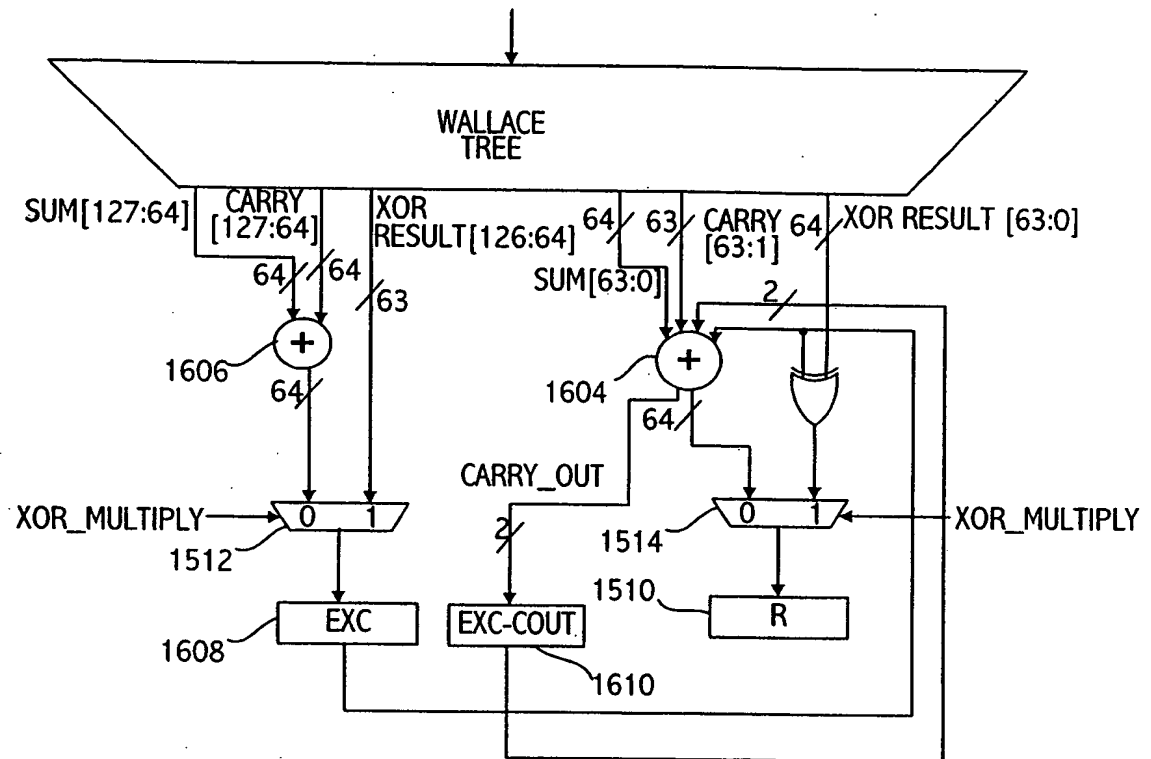


FIG. 16

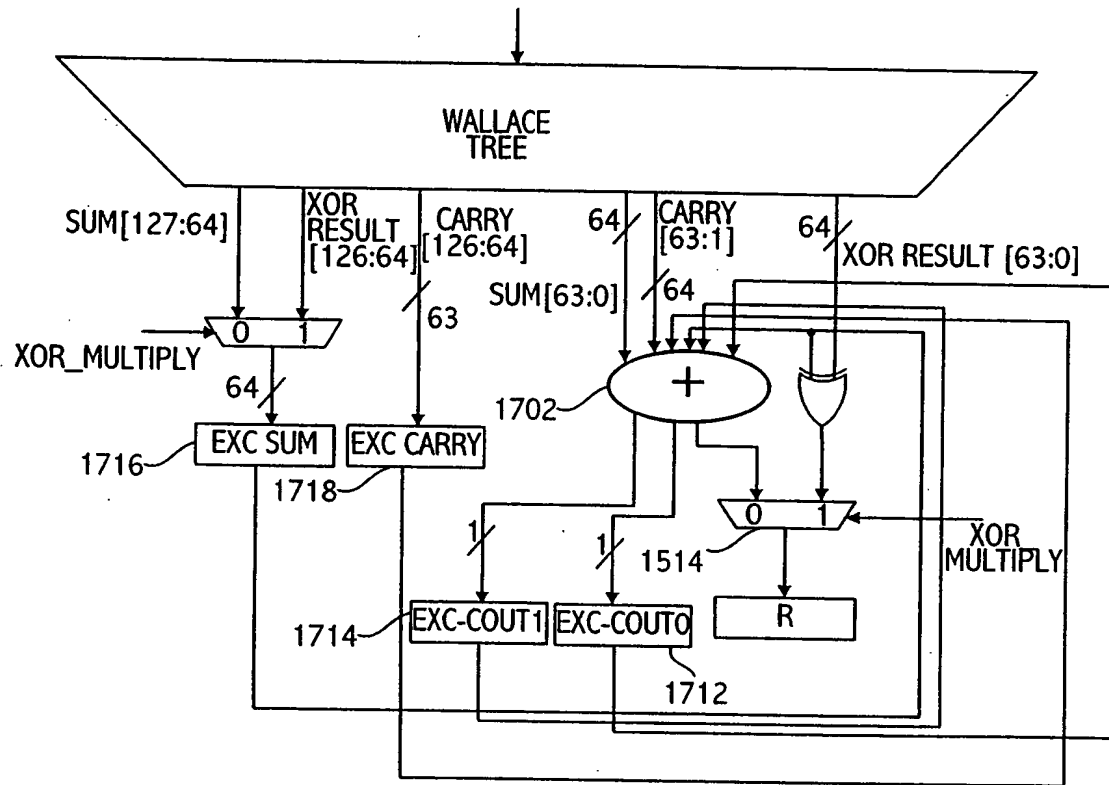


FIG. 17

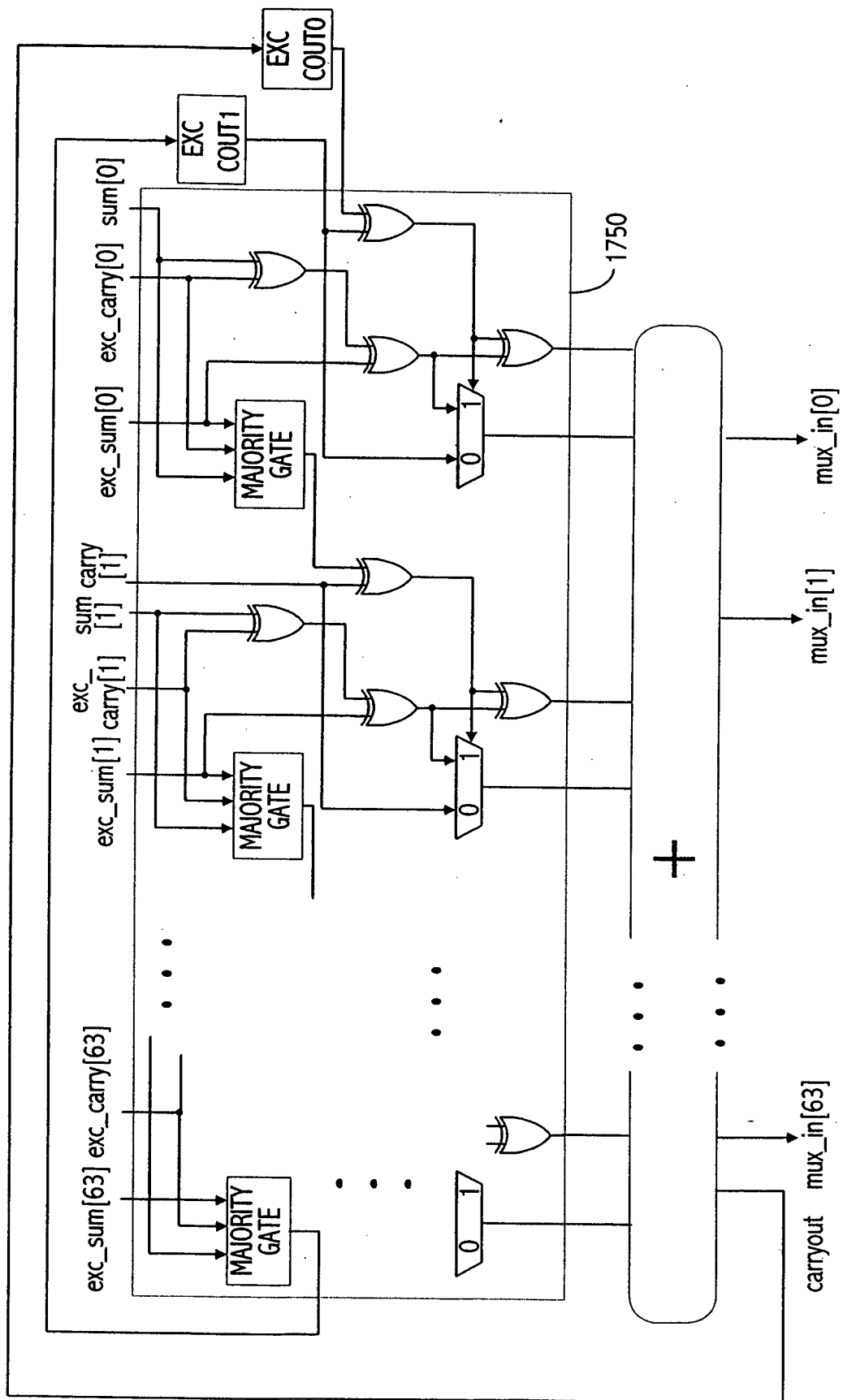
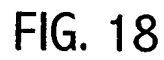


Fig. 17A



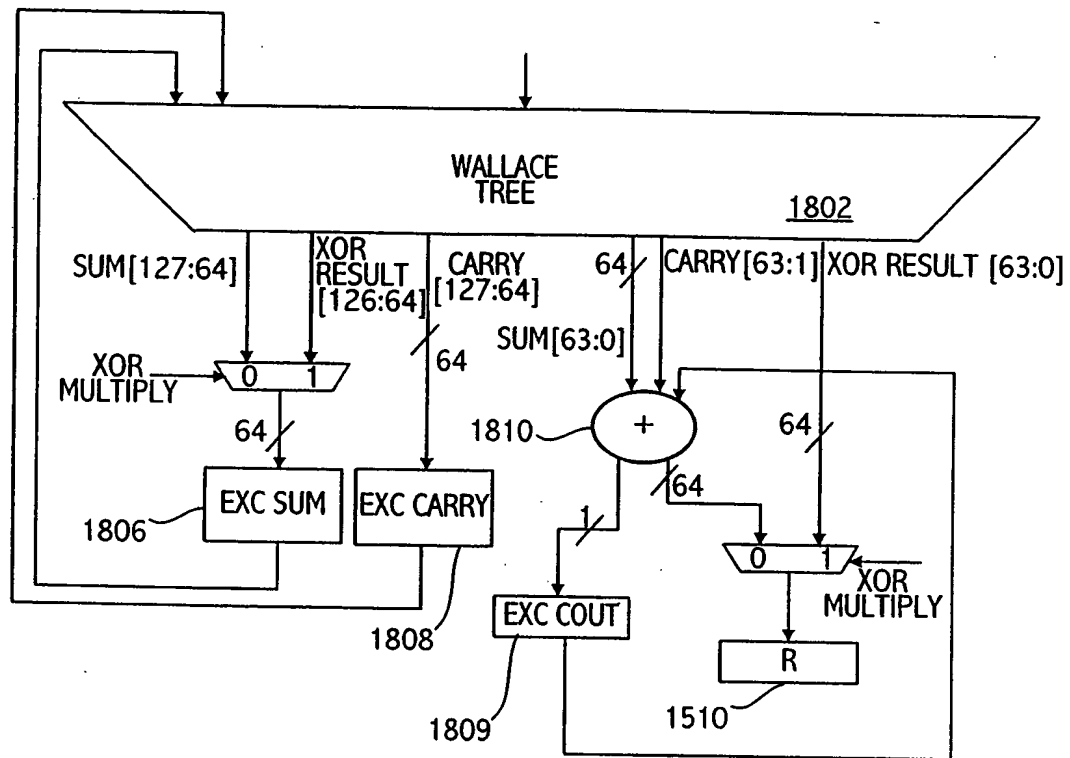
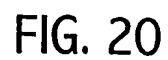
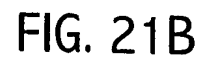
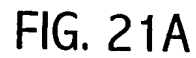


FIG. 19





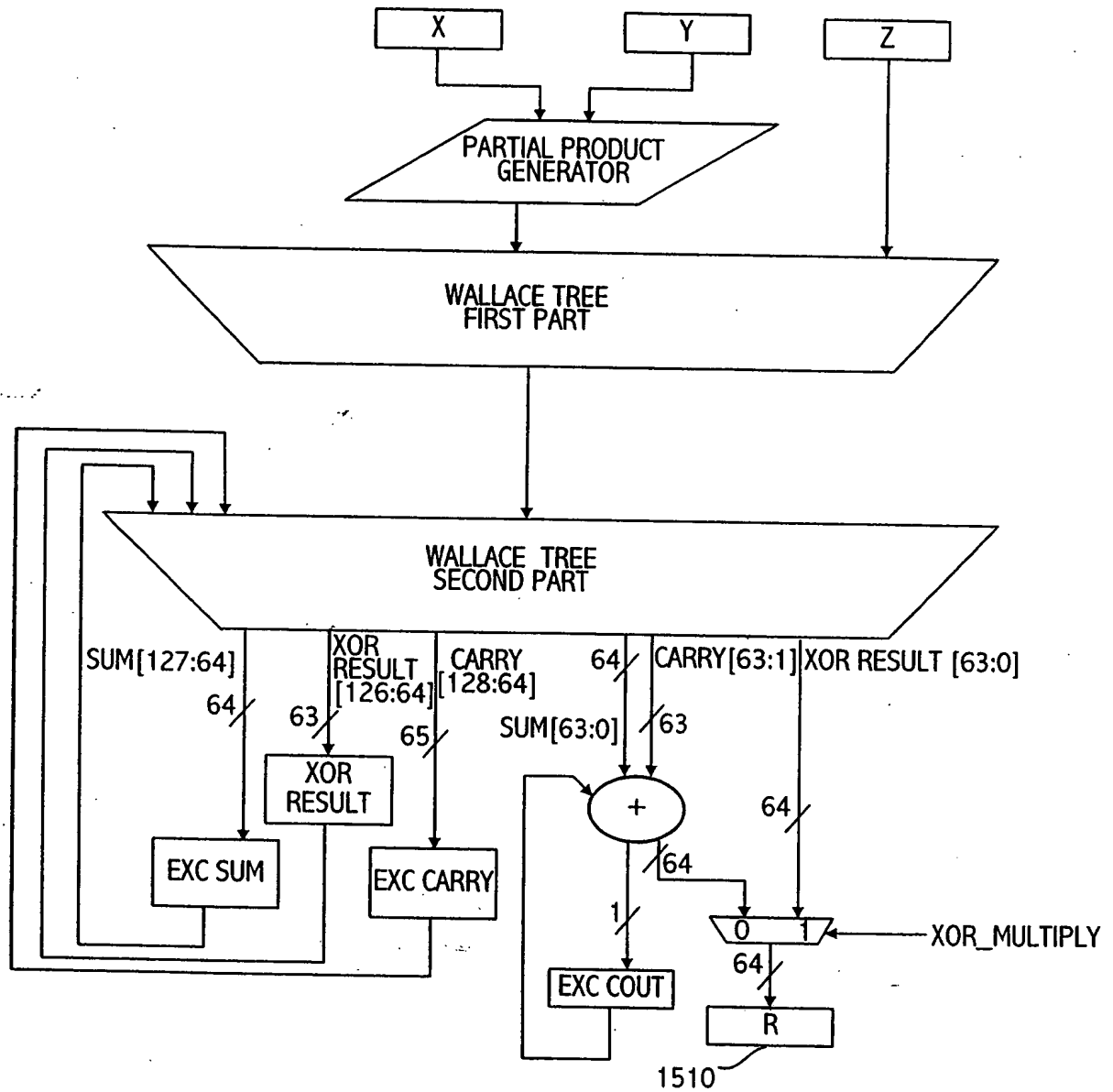
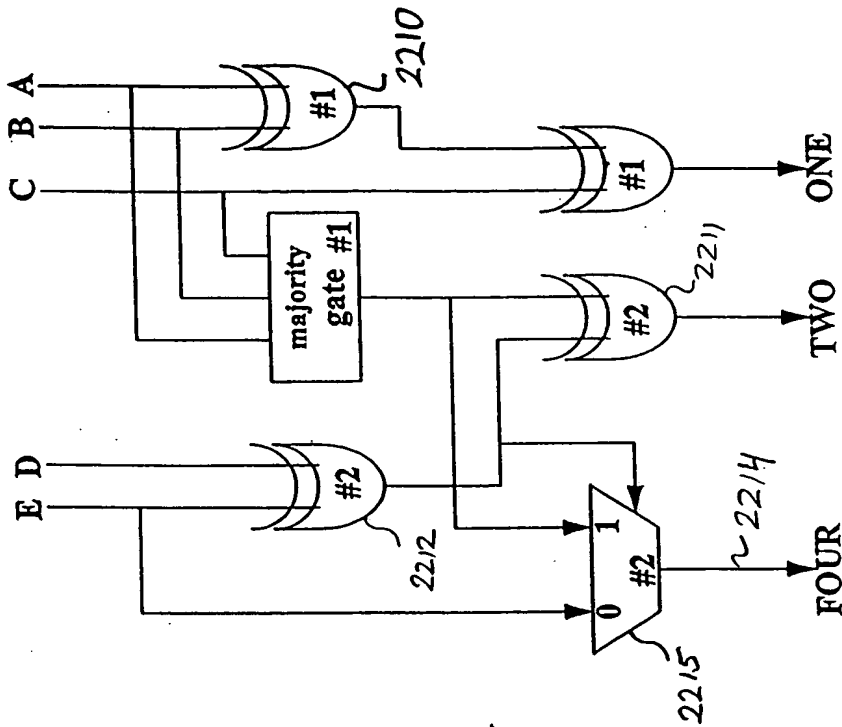


FIG. 21C

5 TO 3 COMPRESSOR

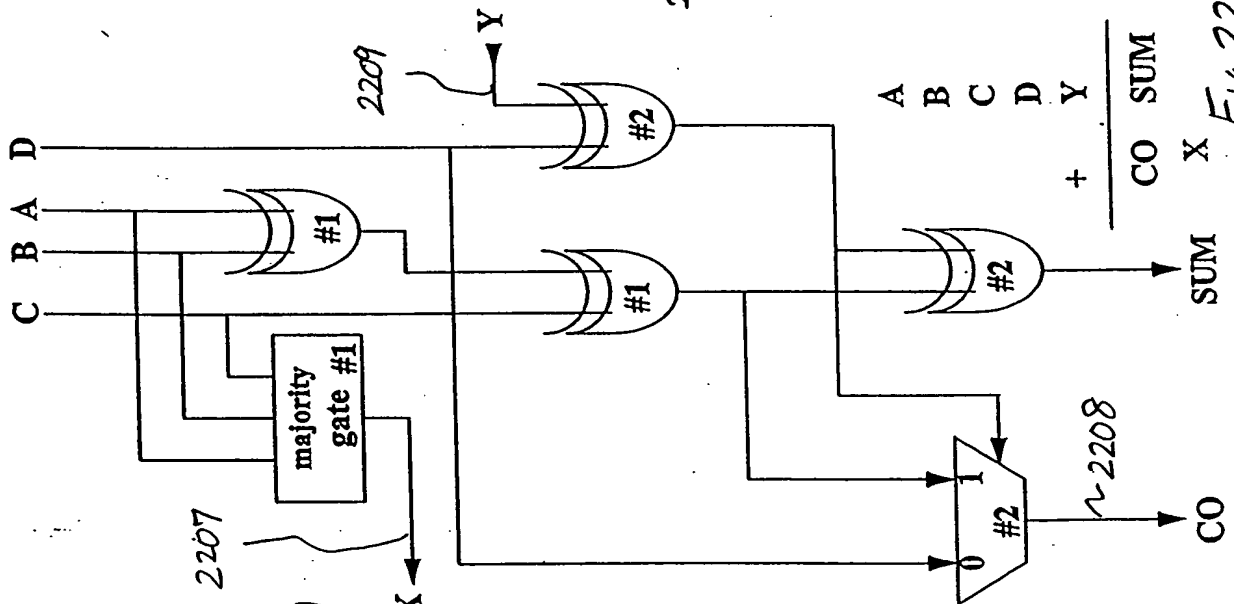


efficiency = 22.5%

$$\begin{array}{r} A \\ D B \\ + E C \\ \hline 4 \ 2 \ 1 \end{array}$$

Fig. 22c

4 TO 2 COMPRESSOR

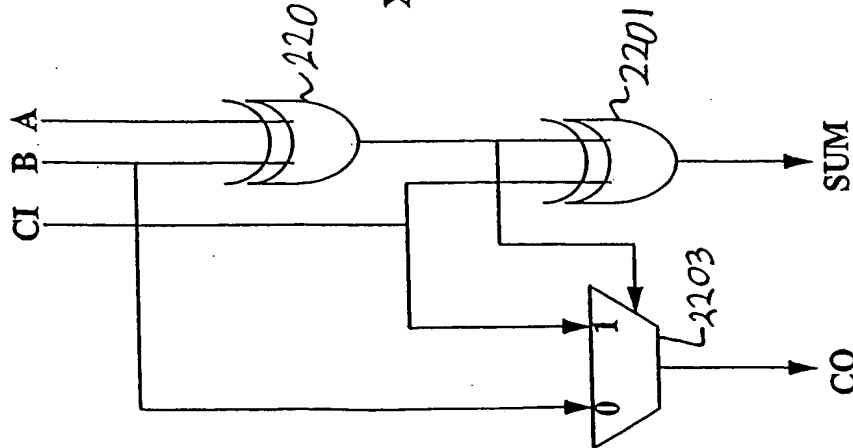


efficiency = 20.6%

$$\begin{array}{r} A \\ B C \\ + D Y \\ \hline CO \ SUM \end{array}$$

Fig. 22b

FULL ADDER



efficiency = 18.4%

$$\begin{array}{r} A \\ B \\ + CI \\ \hline CO \ SUM \end{array}$$

Fig. 22a

XOR

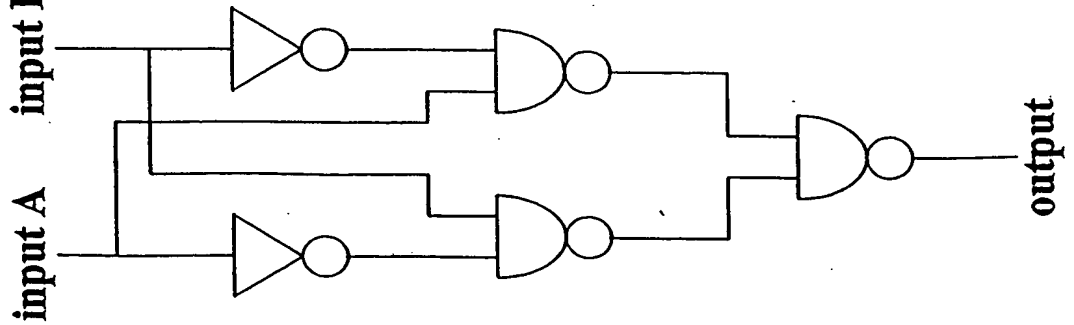


Fig. 23A

MUX

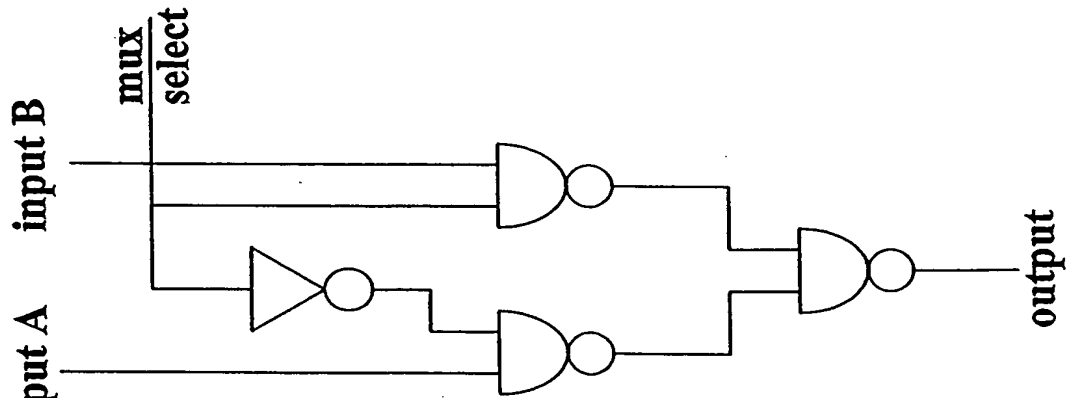


Fig. 23B

MAJORITY

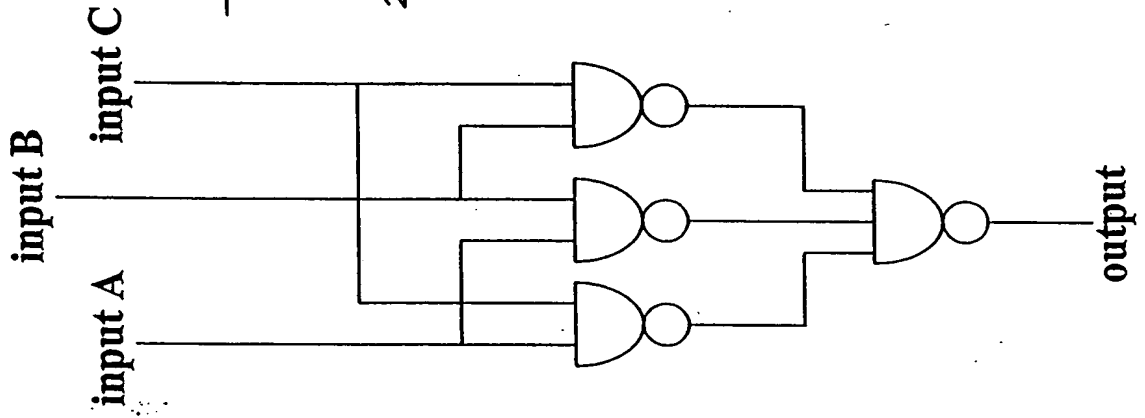


Fig. 23C

**MUL
MAJORITY**

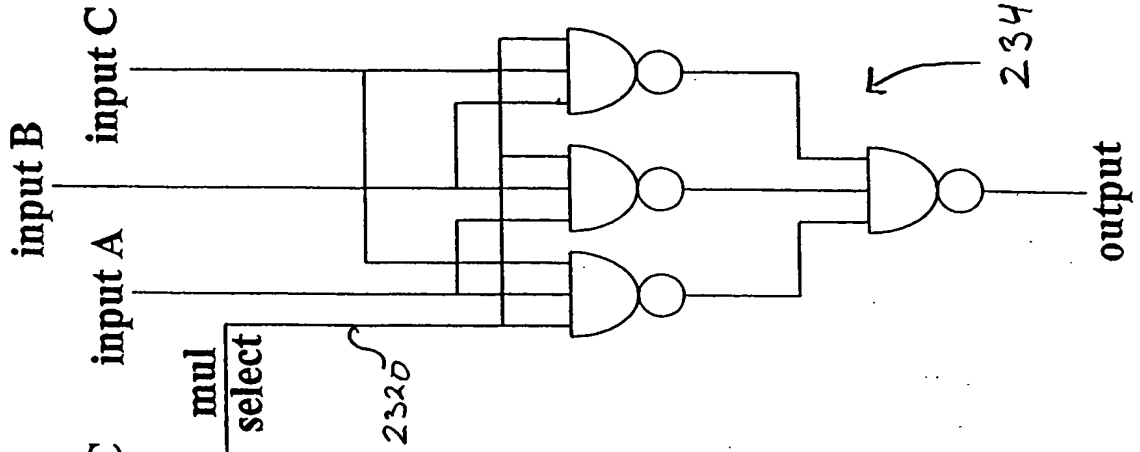
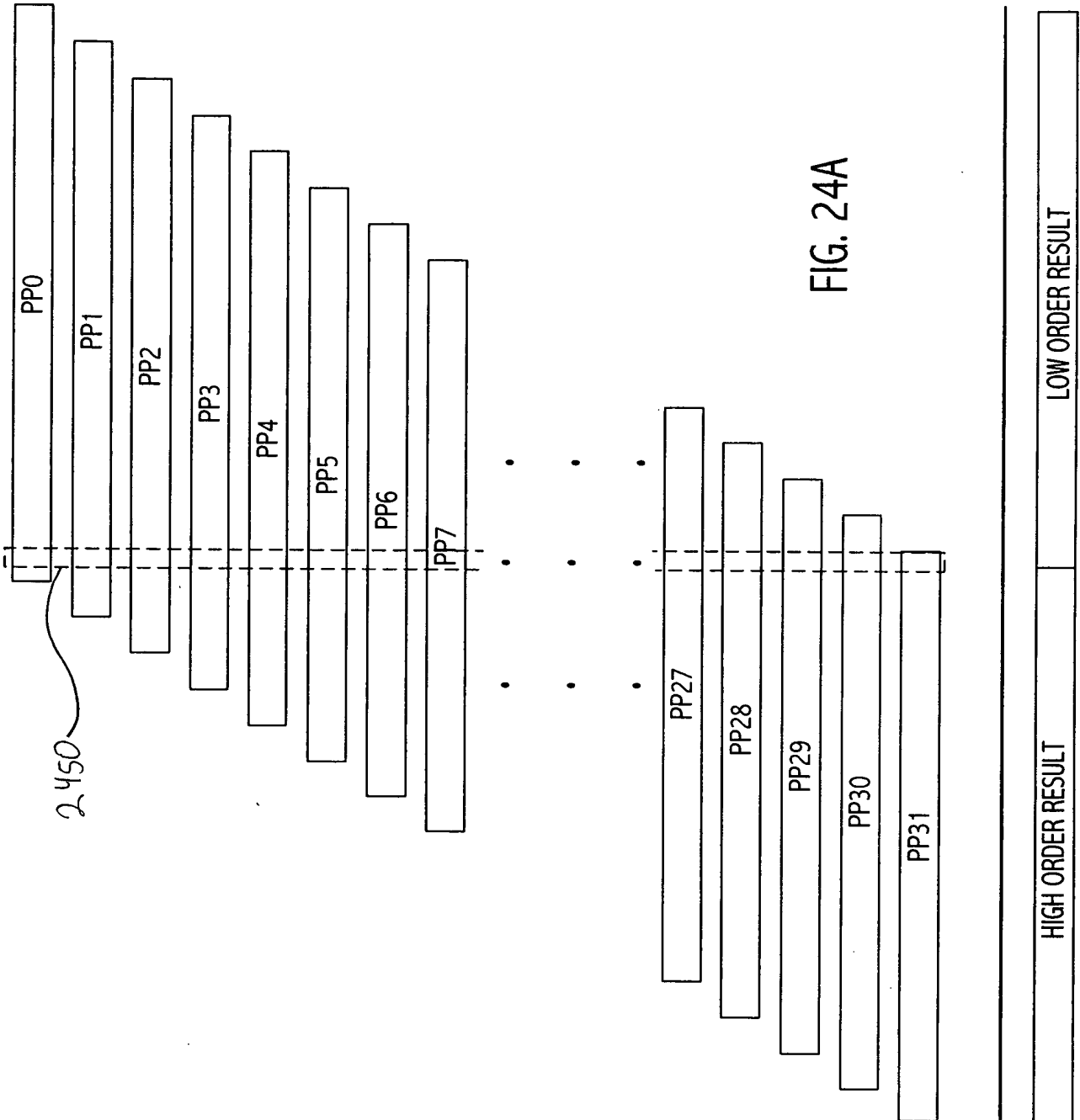
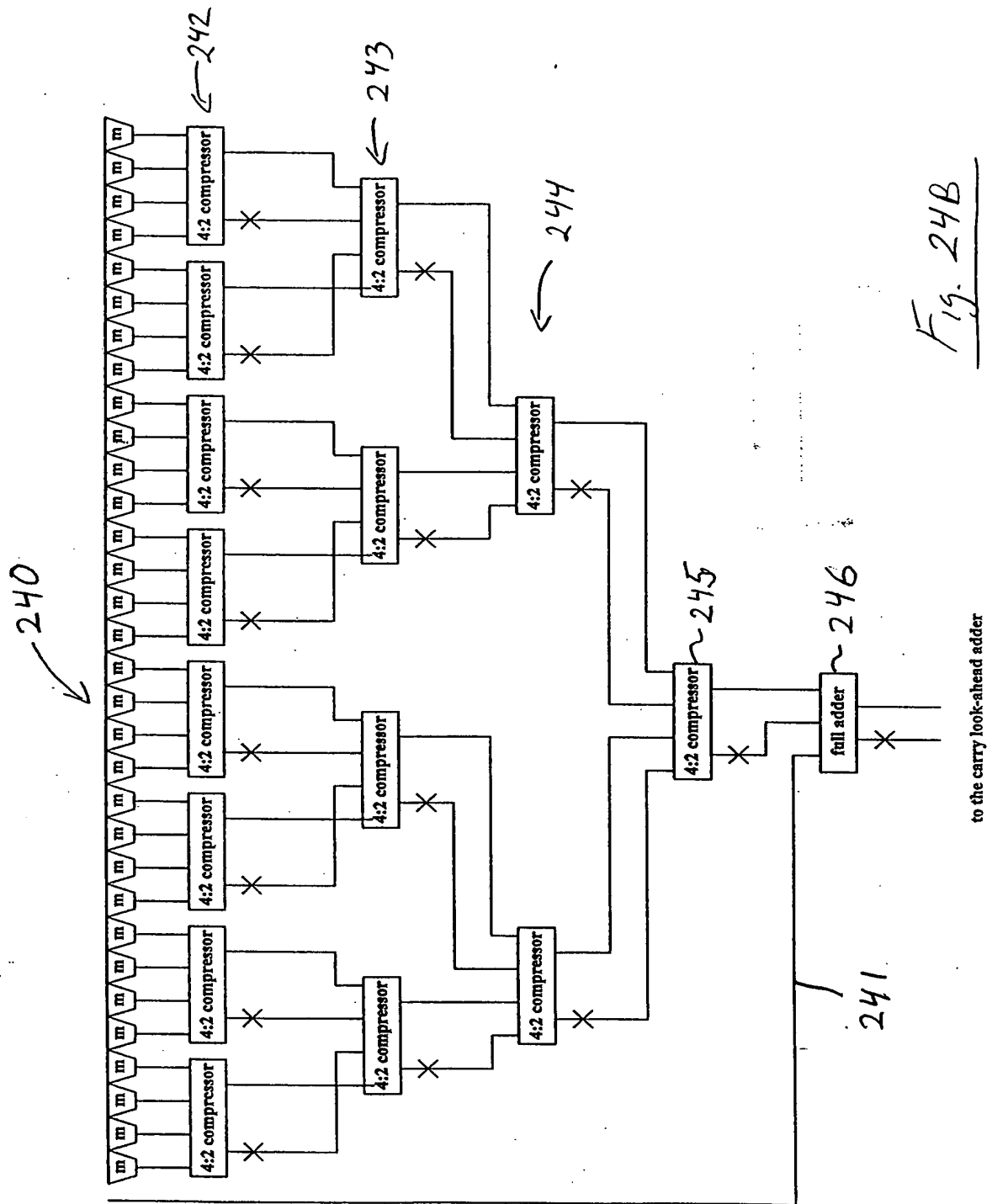
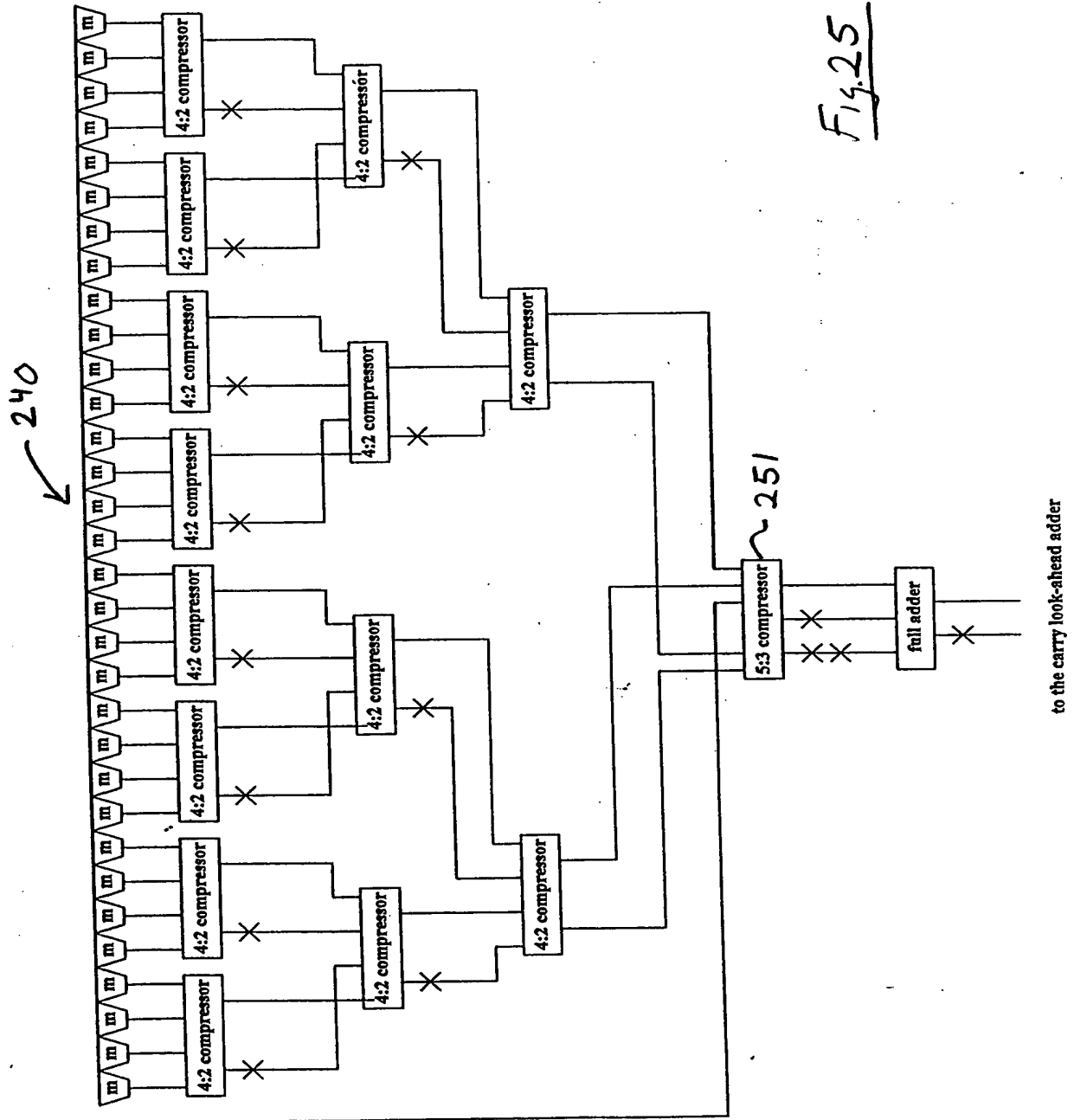
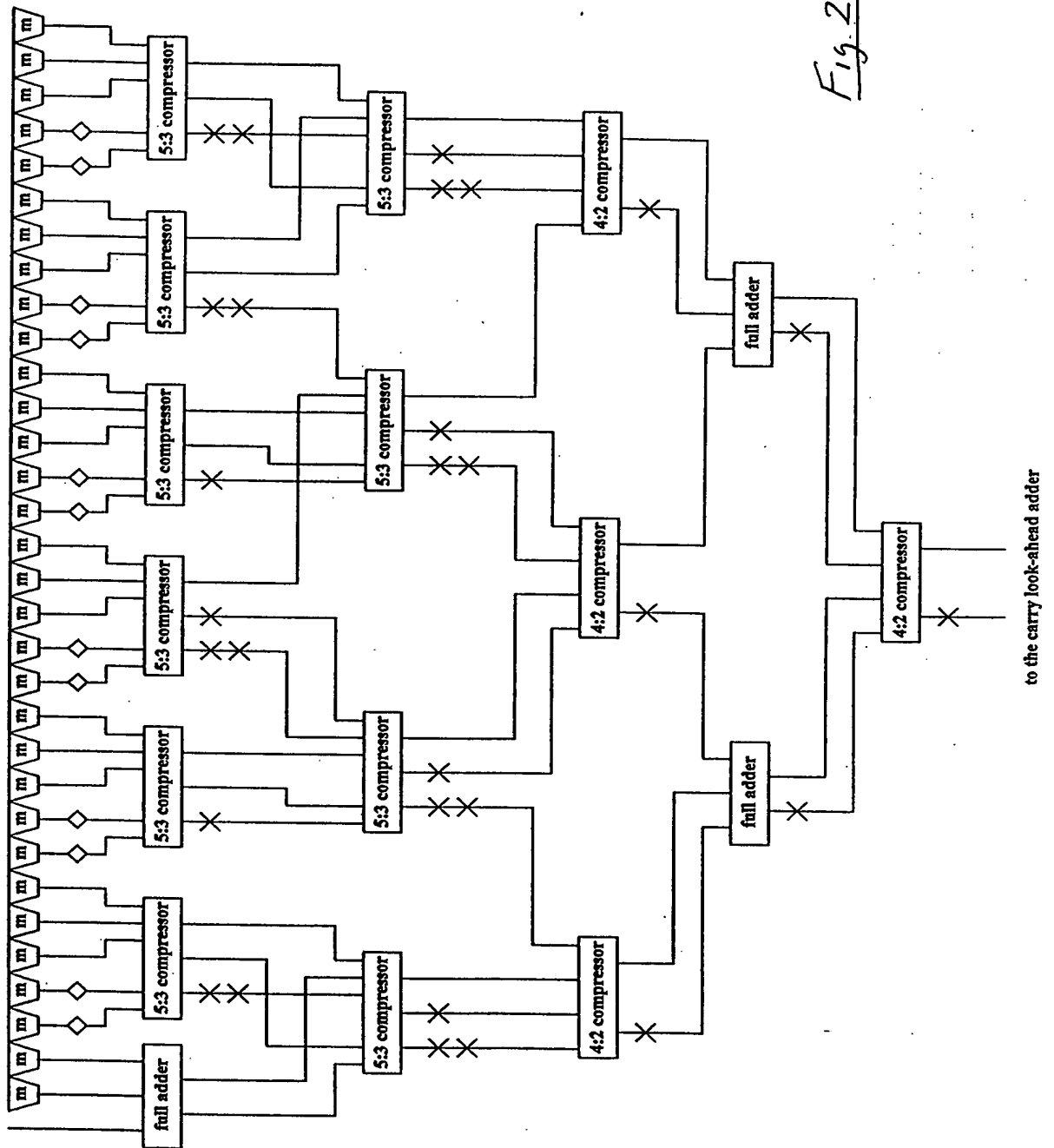


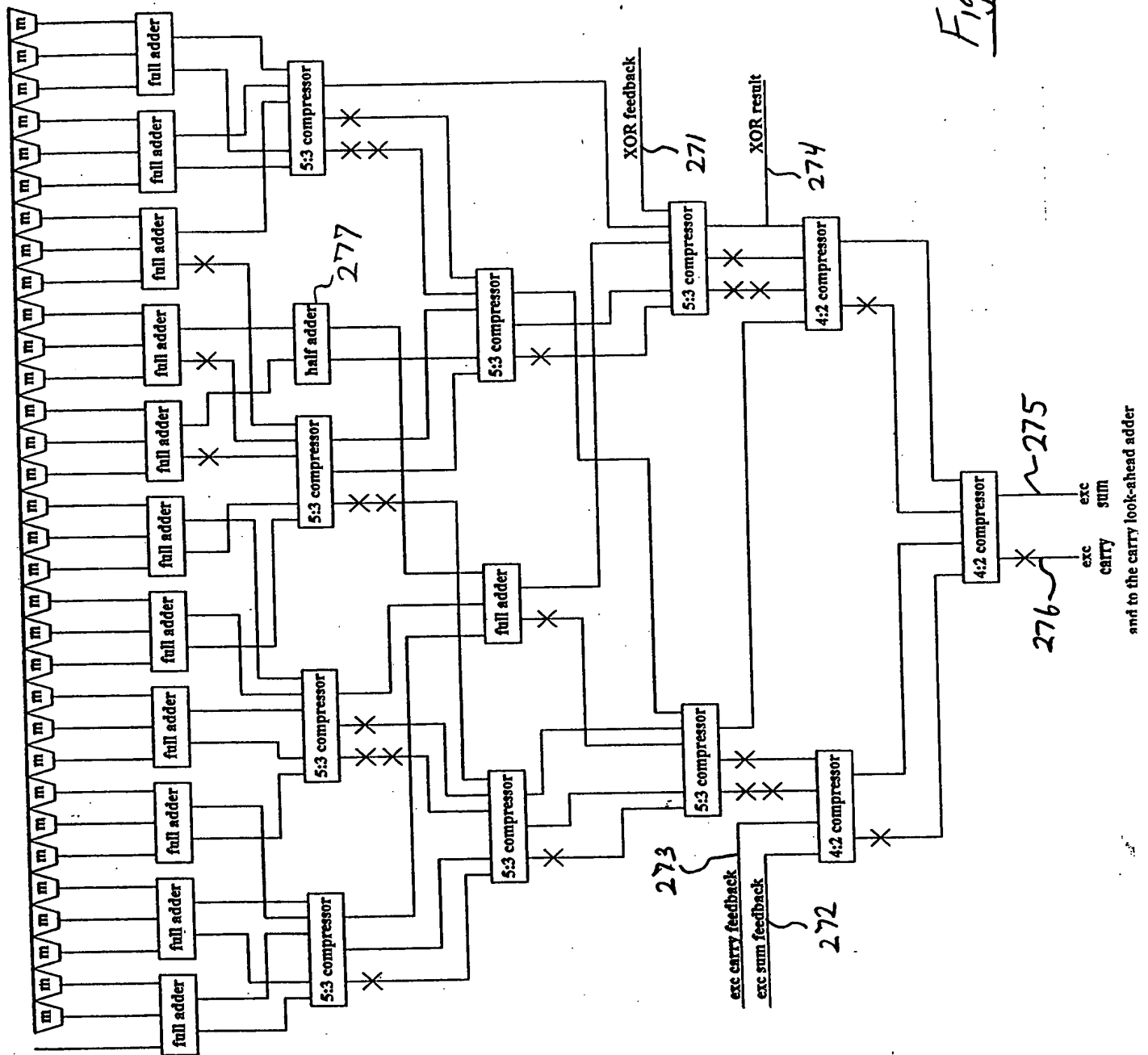
Fig. 23D

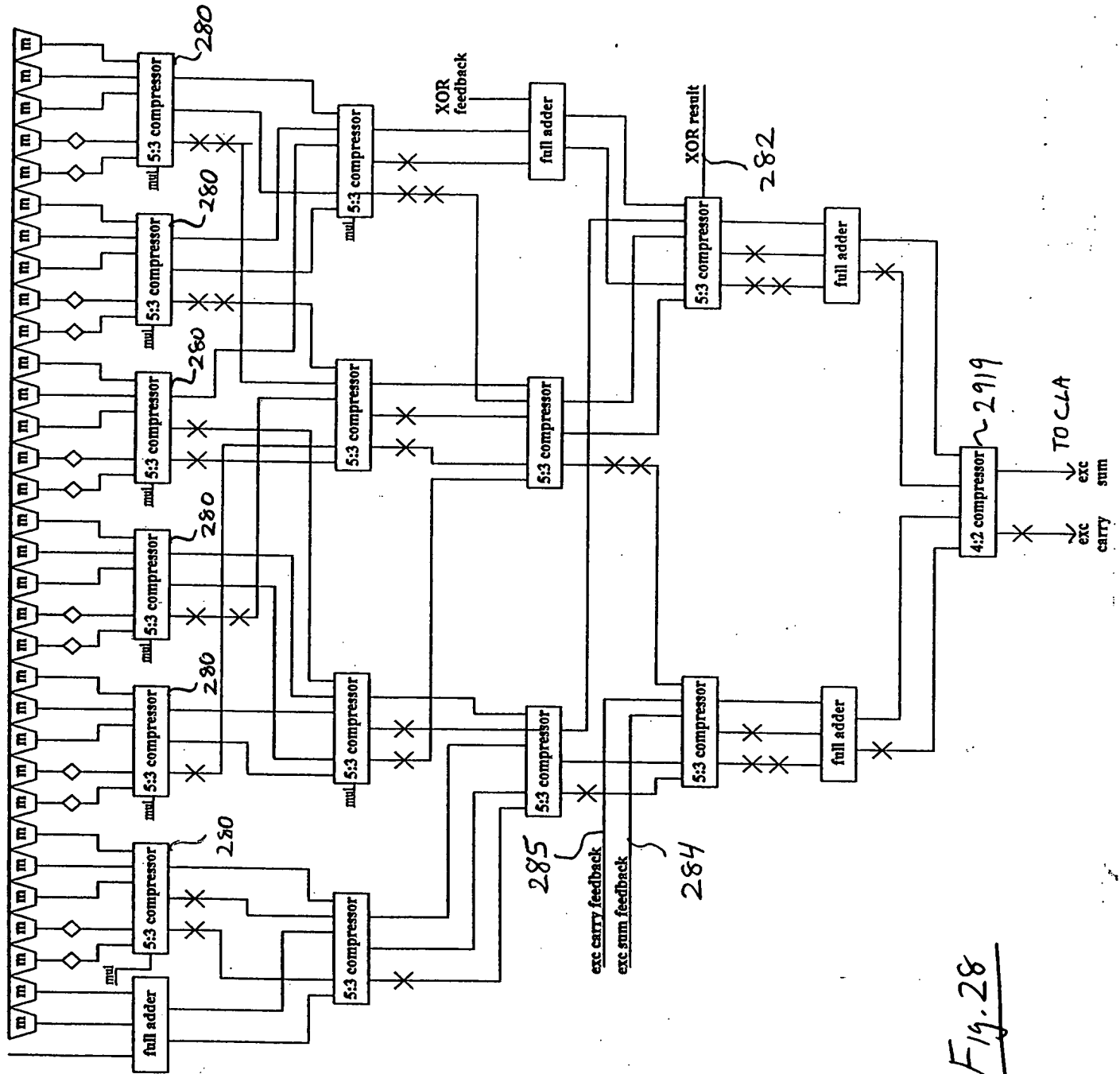


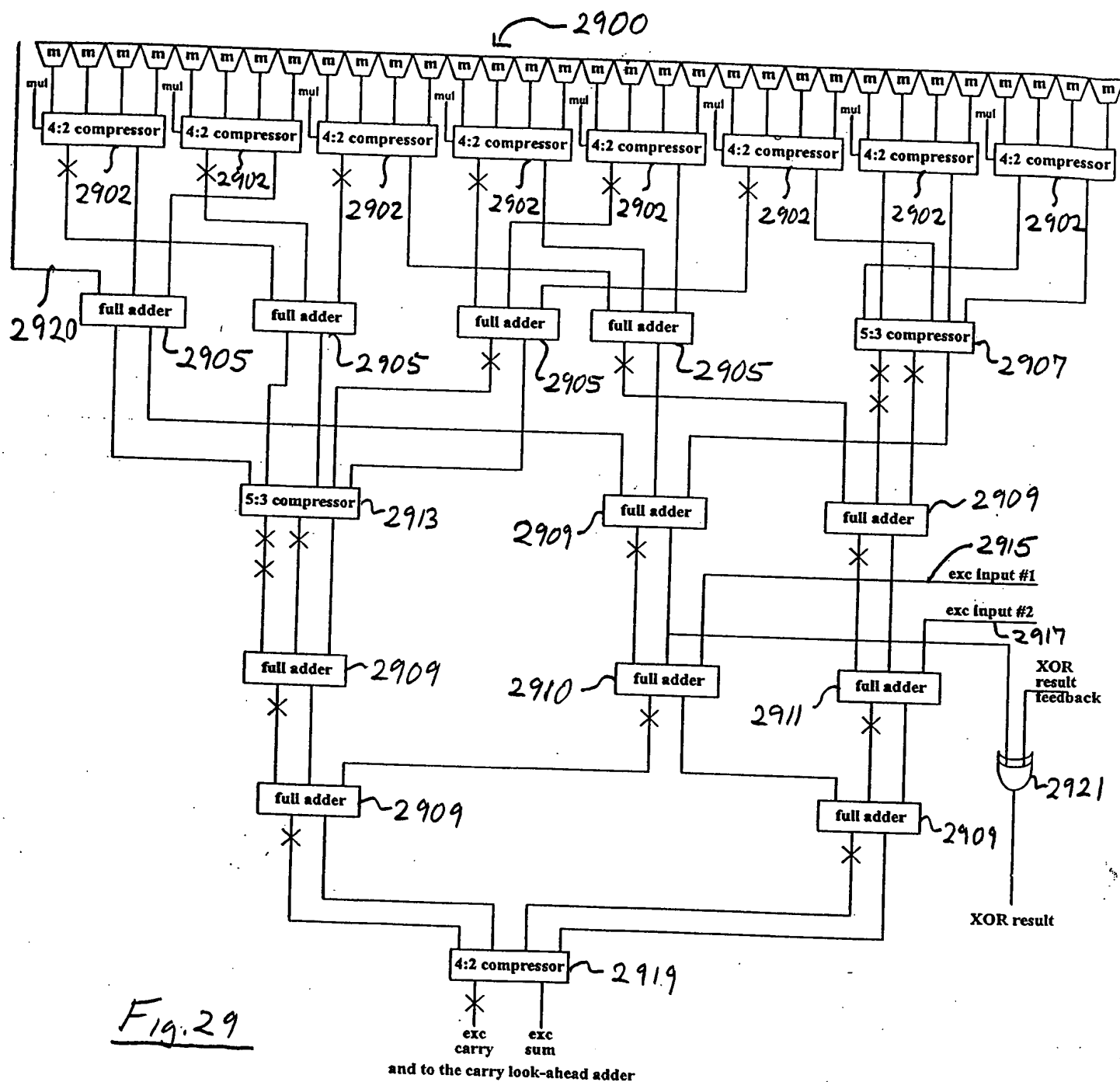


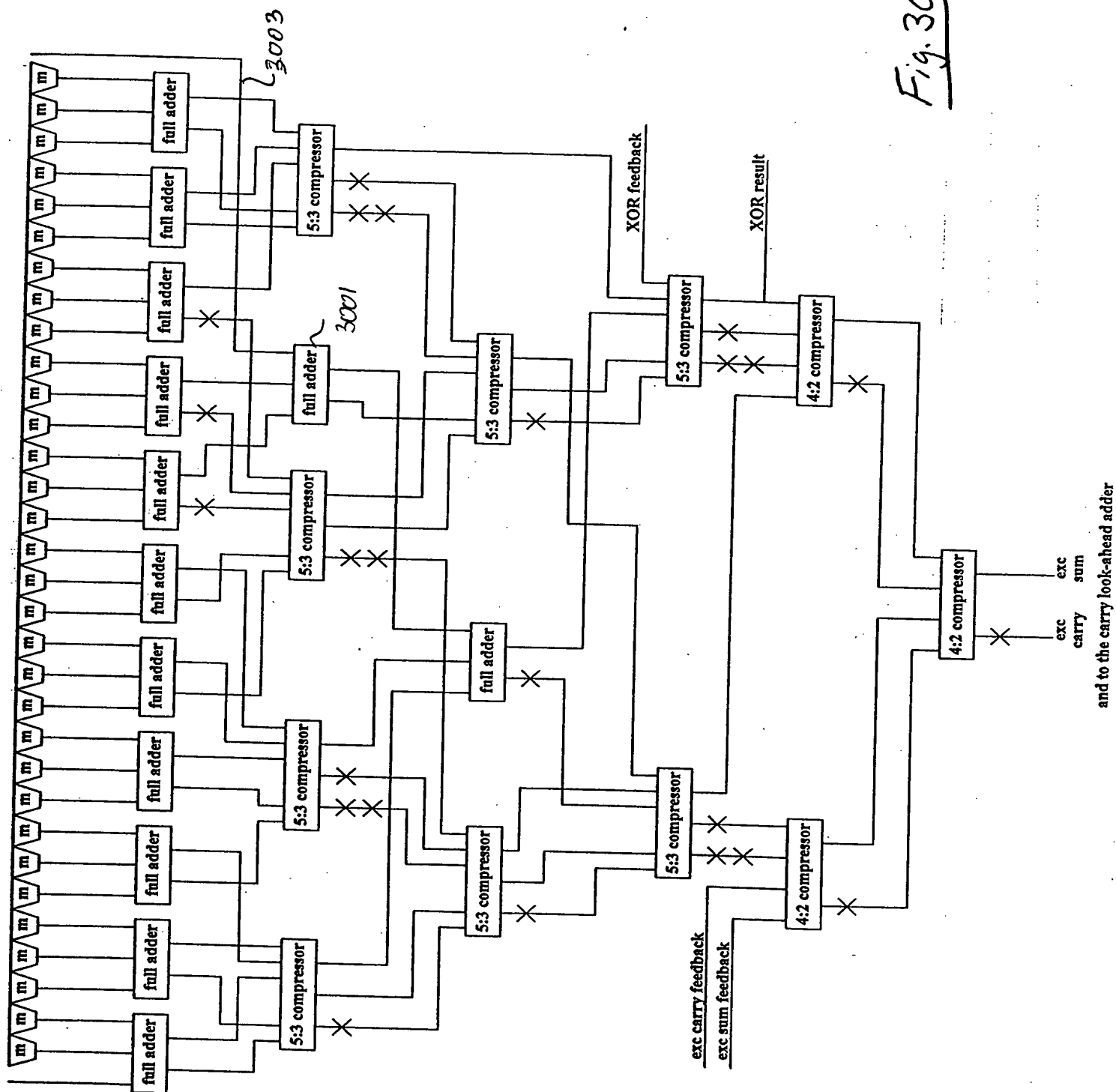














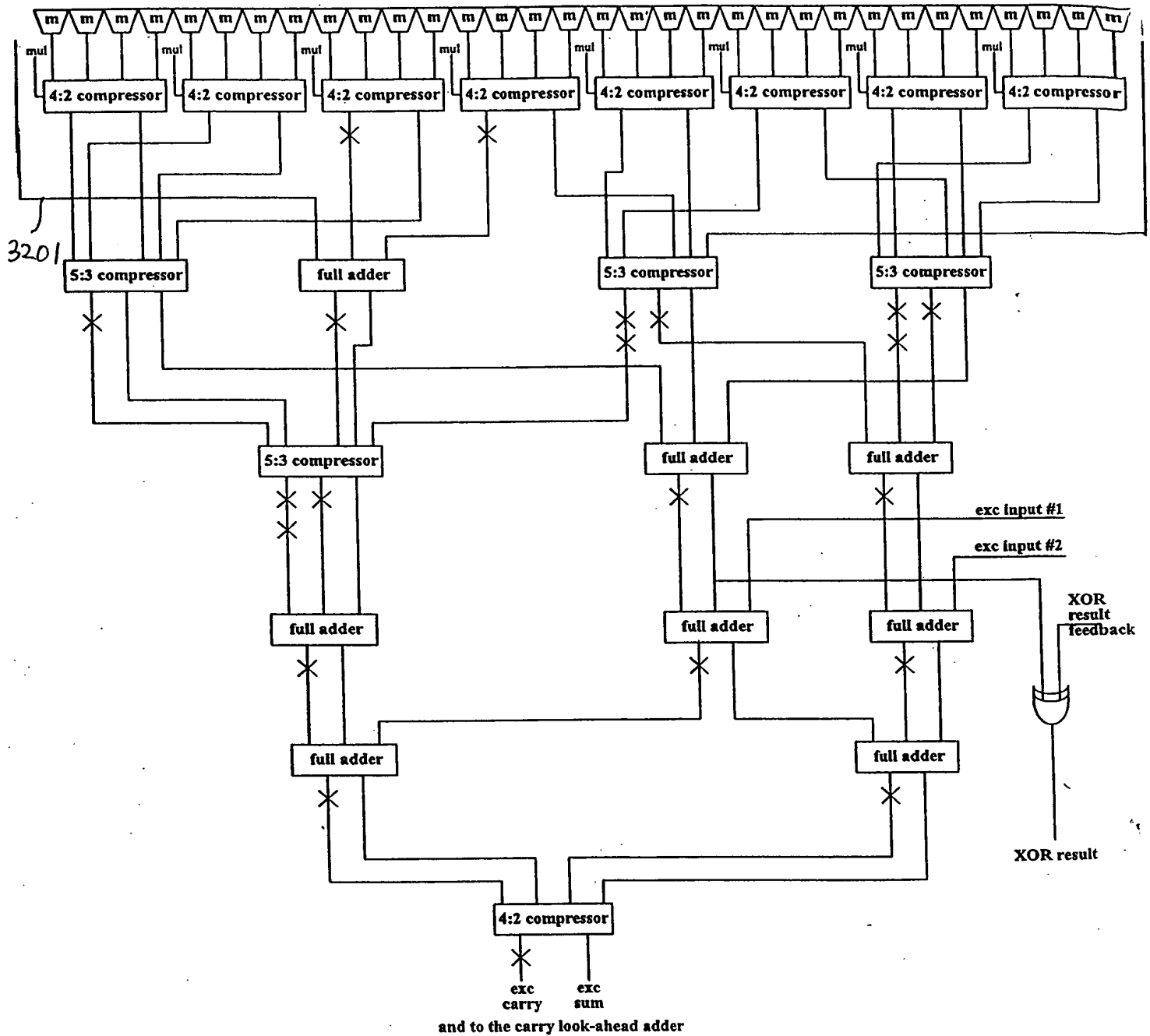


Fig. 32